




---

---

---

---

---

---

---

---

## Agenda

- Brief Overview of AB 32
- TRU Cold Storage Primer
- Sources and Emissions
- Draft Regulatory Concepts
- Next Steps
- Discussion

Questions or comments may be emailed to the meeting room at:  
**auditorium@calepa.ca.gov**

2

---

---

---

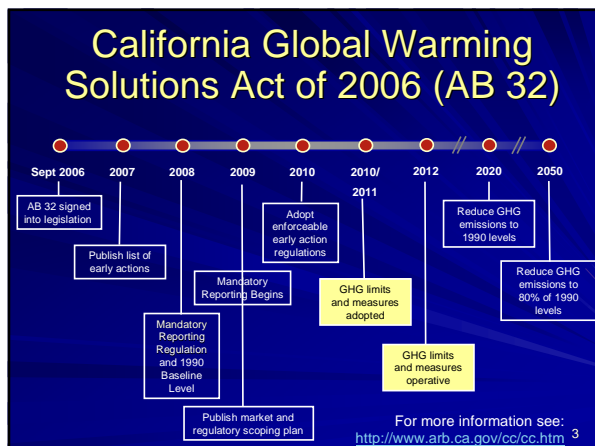
---

---

---

---

---




---

---

---

---

---

---

---

---

## California Global Warming Solutions Act of 2006 (AB 32)

- On December 11, 2008, the Board approved the Climate Change Scoping Plan.
- The TRU Cold Storage Prohibition Control Measure is a component of the Goods Movement Efficiency Measures.

4

---

---

---

---

---

---

---

---

## California Global Warming Solutions Act of 2006 (AB 32)

### Requirements for Scoping Plan Measures

- Adopted and made enforceable before January 1, 2012
- Achieve the maximum technologically feasible and cost-effective reductions in greenhouse gases (GHG) from pertinent sources to achieve 2020 GHG emission limit levels
- No relaxation in conventional air pollutant controls
- Prohibit the use of TRUs for extended cold storage
- Increase energy efficiency from TRUs

5

---

---

---

---

---

---

---

---

## TRU Cold Storage Primer

6

---

---

---

---

---

---

---

---

## TRU Cold Storage Primer

- TRUs are refrigeration systems powered by integral internal combustion engines
- Control the environment of temperature sensitive products that are transported or stored in refrigerated trucks, trailers, railcars, or shipping containers.
- TRUs may be capable of both cooling and heating.

7

---

---

---

---

---

---

---

---

## TRU Cold Storage Primer



8

---

---

---

---

---

---

---

---

## TRU Cold Storage Primer

- TRUs are used to transport many products including:
  - Food
  - Pharmaceuticals
  - Plants
  - Medical products
  - Industrial chemicals

9

---

---

---

---

---

---

---

---

## TRU Cold Storage Primer

- TRU Airborne Toxic Control Measure (ATCM) adopted in 2004 as a part of the Diesel Risk Reduction Program.
  - Required facility reports by Jan 2006
  - Requires TRU diesel engines to meet performance standards based on year of manufacture and size of engine starting December 31, 2008.
- EPA approved waiver for performance standards January 16, 2009. Enforcement delayed until July 17, 2009.

10

---

---

---

---

---

---

---

---

## TRU Cold Storage Primer

Why are TRUs used for cold storage?

- Facilities run out of cold storage capacity
  - Most often for increased storage needs around major holidays
  - Year round storage in some cases

11

---

---

---

---

---

---

---

---

## Estimated Sources and Emissions

12

---

---

---

---

---

---

---

---

## Estimated Sources and Emissions

- Estimated California-based TRUs – 40,000 units
- Estimated total diesel PM emissions from TRU operating in California – 1.6 tons per day
- Estimated TRUs used for Cold Storage – 1300 units
- Estimated annual diesel fuel usage for Cold Storage – 1.7 million gallons per year
- Estimated annual CO<sub>2</sub> generation from Cold Storage – 0.02 Million metric tons per year

13

---

---

---

---

---

---

---

---

## Draft Regulatory Concepts

14

---

---

---

---

---

---

---

---

## Draft Regulatory Concepts

### Applicability

- TRUs that are at facilities for extended cold storage.
  - Grocery stores
  - Distribution centers
- Extended cold storage TRU use means “switch-on” time that is greater than needed for delivery
  - 24 hours used in Climate Change Scoping Plan

15

---

---

---

---

---

---

---

---

## Draft Regulatory Concepts

### TRU Extended Cold Storage Requirements

- Prohibited unless under an **emergency exemption**
  - Military tactical support equipment
  - Loss of power by the serving utility
  - Officially declared disaster or state of emergency
  - Fire/Flood control or life-threatening situations

16

---

---

---

---

---

---

---

## Draft Regulatory Concepts

### TRU Extended Cold Storage Exemptions

- Climate Change rules must not relax existing air pollution control requirements
  - TRU ATCM In-Use Performance Standards still must be met

17

---

---

---

---

---

---

---

## Draft Regulatory Concepts

### Compliance Options

- Build additional facility cold storage capacity
- Use plug-in refrigerated shipping containers
- Use plug-in electric standby equipped TRUs or Hybrid electric TRUs
- Use cryogenic refrigeration systems
- Other

18

---

---

---

---

---

---

---

## Draft Regulatory Concepts

### Monitoring, Recordkeeping, and Reporting Requirements

- Looking for suggestions.

19

---

---

---

---

---

---

---

---

## Draft Regulatory Concepts

### Schedule

- Schedule would consider time for design, permitting, and installation of infrastructure
- Incentives for early compliance

20

---

---

---

---

---

---

---

---

## Draft Regulatory Concepts

### Potential Issues

- Additional capacity or electric plug-in infrastructure may be expensive
- Reporting and recordkeeping issues
- Other issues?

21

---

---

---

---

---

---

---

---

## Next Steps

- ARB is seeking comments and will continue to work with stakeholders
- July 2009 – Tentative public workshop
- March 2010 – Tentative Board Date
- January 2012 – Tentative Effective Date

22

---

---

---

---

---

---

---

---

## ARB Contacts

**Rod Hill (Lead Staff)**  
*rhill@arb.ca.gov*  
 (916) 327-5636

**Carolyn Craig (Staff)**  
*ccraig@arb.ca.gov*  
 (916) 445-5516

**Richard Boyd – Manager**  
*rboyd@arb.ca.gov*  
 (916) 322-8285

**TRU Cold Storage Prohibition Control Measure Website:**  
<http://www.arb.ca.gov/diesel/tru.htm>



---

---

---

---

---

---

---

---



# Thank you.

24

---

---

---

---

---

---

---

---



Questions about Draft  
Regulatory Concepts?



25

---

---

---

---

---

---

---

---

Questions or comments may  
be emailed to the meeting  
room at:

**auditorium@calepa.ca.gov**

26

---

---

---

---

---

---

---

---